

We Claim:

1. A volatile substance dispensing system comprising:
a plurality of electromechanical volatile substance dispensers, each configured to emit a volatile substance from a replaceable volatile substance reservoir when the reservoir is loaded in the dispensing system so as to communicate the volatile substance to each respective dispenser;
a programmable microprocessor for controlling the emission of different volatile substances from the plurality of dispensers; and
a memory card reading device for reading program information from a replaceable memory card,
wherein the replaceable memory card comprises information relating to one or more programs for instructing the microprocessor to control volatile substance emission from the plurality of dispensers in a coordinated manner.
2. A volatile substance dispensing system according to claim 1, wherein the dispensing system further includes a continuous action air freshener.
3. A volatile substance dispensing system according to claim 1, wherein the volatile substance is selected from the group consisting of fragrance, insect repellant, insecticide, disinfectant, sanitizer, and water.
4. A volatile substance dispensing system according to claim 1, further comprising a sensor for sensing at least one of light intensity, airborne chemicals, humidity, sound, motion, and temperature,
wherein the microprocessor controls the emission of the volatile substances at least partially based on information relating to a sensed condition output from the sensor.
5. A volatile substance dispensing system according to claim 1, further comprising a user interface,

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wherein the user interface allows a user to instruct the microprocessor to control the emission of the volatile substances.

6. A volatile substance dispensing system according to claim 1, wherein the memory card is a flash memory device.

7. A volatile substance dispensing system according to claim 1, wherein the memory card reading device is an optical scanner that reads information displayed on the memory card.

8. A method of selling replaceable volatile substance reservoirs for use in a volatile substance dispensing device which is configured to mount a plurality of volatile substance reservoirs simultaneously and to operate electromechanical dispensers to emit volatile substances from respective volatile substance reservoirs independently or in combination, the dispensing device having a microprocessor and a memory card reading device for reading a memory card containing information relating to one or more programs for instructing the microprocessor to control emission of volatile substances from the volatile substance reservoirs in accordance with the one or more programs, the method comprising the steps of:

grouping a plurality of volatile substance reservoirs, each having a different volatile substance;

storing on a memory card information relating to one or more programs for instructing the microprocessor to control the emission of the different volatile substances from the group of volatile substance reservoirs;

packaging the plurality of volatile substance reservoirs together with the memory card;

offering the packaged materials for sale as a single item.

9. The method according to claim 8, wherein the memory card comprises a flash memory.

10. The method according to claim 8, wherein the memory card has the information relating to the one or more computer-readable programs printed thereon.

11. The method according to claim 8, wherein the volatile substances are selected from the group consisting of fragrance, insect repellant, insecticide, disinfectant, sanitizer, and water.

12. A volatile substance dispensing system comprising:
a plurality of electromechanical volatile substance dispensers configured to dispense volatile substances from a plurality replaceable volatile substance reservoirs, respectively, when the plurality of volatile substance reservoirs are loaded in the dispensing system so as to communicate a volatile substance to each respective dispenser;
a microprocessor for controlling the plurality of electromechanical volatile substance dispensers to emit volatile substances from the plurality of volatile substance reservoirs,
wherein the microprocessor controls the plurality of volatile substance dispensers to perform at least one of (i) repetitive alternation between independent emissions of different volatile substances, (ii) repetitive alternation between emissions of different combinations of volatile substances, or (iii) repetitive alternation between different emission intensities of at least one volatile substance, in a set pattern.

13. A volatile substance dispensing system according to claim 7, wherein the dispensing system further includes a continuous action air freshener.

14. A volatile substance dispensing system according to claim 12, wherein the volatile substance is selected from the group consisting of fragrance, insect repellant, insecticide, disinfectant, sanitizer, and water.

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15. A volatile substance dispensing system according to claim 12, wherein the volatile substance is a fragrance, and the set pattern reduces fragrance fatigue by a user.

16. A volatile substance dispensing system according to claim 12, further comprising a sensor for sensing at least one of light intensity, airborne chemicals, humidity, sound, motion, and temperature,
wherein the microprocessor controls the emission of the volatile substances at least partially based on information relating to a sensed condition output from the sensor.

17. A volatile substance dispensing system according to claim 12, further comprising a user interface,
wherein the user interface allows a user to instruct the microprocessor to control the emission of the volatile substances.

18. A volatile substance dispensing system according to claim 12, wherein the microprocessor controls the plurality of volatile substance dispensers (i) to emit intermittent bursts of a first volatile substance over a first period of time, (ii) to emit intermittent bursts of a second volatile substance over a second period of time following the first period of time, and (iii) to repeat the first and second periods.

19. A volatile substance dispensing system according to claim 12, wherein the microprocessor controls the plurality of volatile substance dispensers to emit repeatedly (i) intermittent bursts of a first combination of volatile substances from different reservoirs over a first period of time, and (ii) intermittent bursts of a second combination of volatile substances from different reservoirs over a second period of time.

20. A volatile substance dispensing system according to claim 12, wherein the microprocessor controls the plurality of volatile substance dispensers

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to emit repeatedly (i) intermittent bursts of a combination of volatile substances from different reservoirs over a first period of time, and (ii) intermittent bursts of a single volatile substance from one reservoir over a second period of time.

21. A volatile substance dispensing system comprising:

a plurality of electromechanical volatile substance dispensers, each configured to dispense a volatile substance from a different replaceable volatile substance reservoir, each reservoir comprising a wick that (i) extends into the reservoir, and (ii) communicates the volatile substance from the reservoir through capillary action, to deliver the volatile substance to the electromechanical volatile substance dispenser, wherein each electromechanical volatile substance dispenser comprises:

(a) an orifice plate; and

(b) a piezoelectric actuator element that expands and contracts when alternating voltages are applied thereto, which expansion and contraction is communicated to the orifice place to cause the orifice plate to vibrate and, consequently, to eject into the air droplets of a volatile substance communicated by the wick; and

a microprocessor for controlling the emission of volatile substances from the plurality of electromechanical volatile substance dispensers by independently controlling the voltage applied to each actuator element.

22. A volatile substance dispensing system according to claim 21, wherein the dispensing system further includes a continuous action air freshener.

23. A volatile substance dispensing system according to claim 21, wherein the volatile substance is selected from the group consisting of fragrance, insect repellant, insecticide, disinfectant, sanitizer, and water.

24. A volatile substance dispensing system according to claim 21, further comprising a sensor for sensing at least one of light intensity, airborne chemicals, humidity, sound, motion, and temperature,

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wherein the microprocessor controls the emission of the volatile substances at least partially based on information relating to a sensed condition output from the sensor.

25. A volatile substance dispensing system according to claim 21, further comprising a user interface,

wherein the user interface allows a user to instruct the microprocessor to control the emission of the volatile substances.

26. A volatile substance dispensing system comprising:

at least one electromechanical dispenser configured to dispense volatile substance from a replaceable volatile substance reservoir when the volatile substance reservoir is loaded in the volatile substance dispensing system, the volatile substance reservoir including information relating to the type of volatile substance contained therein;

at least one reading device for reading the information from the volatile substance reservoir relating to the type of volatile substance stored therein; and

a microprocessor for controlling the electromechanical dispenser to emit a volatile substance from the volatile substance reservoir, the microprocessor receiving one or more signals from the reading device relating to the information read from the reservoir,

wherein the microprocessor controls the emission of a volatile substance from the reservoir based on the one or more signals received from the reading device.

27. A volatile substance dispensing system according to claim 26, wherein the reading device comprises an optical scanner that reads a bar code displayed on the reservoir.

28. A volatile substance dispensing system according to claim 26, wherein the reading device comprises a flash memory which is integrated with the

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reservoir and stores the information relating to the volatile substance contained within the reservoir.

29. A volatile substance dispensing system according to claim 26, wherein the dispensing system further includes a continuous action air freshener.

30. A volatile substance dispensing system according to claim 26, wherein the volatile substance is selected from the group consisting of fragrance, insect repellant, insecticide, disinfectant, sanitizer, and water.

31. A volatile substance dispensing system according to claim 26, further comprising a sensor for sensing at least one of light intensity, airborne chemicals, humidity, sound, motion, and temperature,
wherein the microprocessor controls the emission of a volatile substance at least partially based on information relating to a sensed condition output from the sensor.

32. A volatile substance dispensing system according to claim 26, further comprising a user interface,
wherein the user interface allows a user to instruct the microprocessor to control the emission of a volatile substance.

33. A volatile substance dispensing system according to claim 26, further comprising:
a plurality of electromechanical dispensers, each configured to dispense a volatile substance from a respective, replaceable volatile substance reservoir when the volatile substance reservoir is loaded in the volatile substance dispensing system, each volatile substance reservoir including information relating to the volatile substance contained therein; and
a plurality of reading devices for reading the information from each of the reservoirs, respectively, and each sending one or more signals to the microprocessor relating to the read information,

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wherein the microprocessor controls each of the electromechanical dispensers to emit volatile substance based on the one or more signals received from each reading device.

34. A volatile substance dispensing system according to claim 33, wherein the microprocessor controls the plurality of electromechanical dispensers to emit a coordinated combination of volatile substance from different reservoirs based on the receiving signals from the different reservoirs.

35. A volatile substance dispensing system comprising:
at least one electromechanical dispenser configured to dispense a volatile substance from a respective at least one replaceable volatile substance reservoir, respectively, when the volatile substance reservoir is loaded in the volatile substance dispensing system so as to communicate a volatile substance to the at least one electromechanical dispenser, the volatile substance reservoir including information relating to one or more computer-readable programs;
at least one reading device for reading the information from the volatile substance reservoir; and
a microprocessor for receiving signals from the reading device relating to the information and controlling the at least one electromechanical dispenser to emit volatile substance from the respective at least one volatile substance reservoir in accordance with the signals communicated from the reading device.

36. A volatile substance dispensing system according to claim 35, further comprising selection means for selecting one of the control programs to be run by the microprocessor when more than one program is read from the reservoir.

37. A volatile substance dispensing system according to claim 35, wherein the reading device reads a flash memory integrated with the reservoir, which stores the information relating to the one or more the computer-readable control programs.

38. A volatile substance dispensing system according to claim 35, further comprising:

a plurality of electromechanical dispensers, each configured to dispense a volatile substance from a respective, replaceable volatile substance reservoir when the volatile substance reservoir is loaded in the volatile substance dispensing system, each volatile substance reservoir including information relating to one or more computer-readable programs; and

a plurality of reading devices for reading the information from each of the respective reservoirs,

wherein the microprocessor receives signals from the plurality of reading devices relating to the one or more computer-readable programs from the volatile substance reservoirs and controls the electromechanical dispensers to emit volatile substance based on the signals from the reading devices.

39. A volatile substance dispensing system according to claim 38, wherein the microprocessor controls the plurality of electromechanical dispensers to emit a coordinated combination of volatile substances from respective reservoirs based on the received signals.

40. A volatile substance dispensing system according to claim 38, further comprising a housing in which the plurality of electromechanical dispensers are secured, wherein the volatile substance reservoirs are mounted within the housing so as to communicate volatile substances to the electromechanical dispensers when loaded in the volatile substance dispensing system.

41. A volatile substance dispensing system according to claim 35, wherein the dispensing system further includes a continuous action air freshener.

42. A volatile substance dispensing system according to claim 35, wherein the volatile substance is selected from the group consisting of fragrance, insect repellant, insecticide, disinfectant, sanitizer, and water.

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43. A volatile substance dispensing system according to claim 35, further comprising a sensor for sensing at least one of light intensity, airborne chemicals, humidity, sound, motion, and temperature,

wherein the microprocessor controls the emission of a volatile substance at least partially based on information relating to a sensed condition output from the sensor.

44. A volatile substance dispensing system according to claim 35, further comprising a user interface,

wherein the user interface allows a user to instruct the microprocessor to control the emission of a volatile substance.